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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,370	12/29/2003	Andrew Nguyen	006601.P031	8166

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EXAMINER	
ANYA, IGWE U	
ART UNIT	**PAPER NUMBER**
2825	

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/748,370	NGUYEN, ANDREW	
	Examiner	Art Unit	
	Igwe U. Anya	2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,13-15,19-24,26 and 27* is/are rejected.

7)☒ Claim(s) *11-12,16-18 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/1/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 10, 13, 14, 15, 19 – 24, 26, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsujii et al. (US Patent 6641670) in view of Semba (US Patent 5854953).

3. Tsujii et al. teach a method of coating a surface of a substrate with a polymer solution (fig. 1), comprising, providing the substrate (18), and dispensing the polymer solution onto the surface of the substrate using a coating system having a pump (14) connected in-line with a buffer tank (25) and a polymer solution source (12), the pump to draw the polymer solution from the polymer solution source and the buffer tank in a continuous fluid path to dispense the polymer solution, the polymer solution source being connected to a pressure source capable of causing the polymer solution to be transferred from the polymer solution source into the buffer tank (col. 7 lines 60 – 65) by providing a momentary valve between the pressure source and the polymer solution source (fig. 1). Evaporating solvent from the polymer solution dispensed on the surface of the substrate to form a polymer layer on the surface of the substrate (col. 8 lines 25 – 28), wherein the polymer solution is a photoresist solution (col. 9 lines 55 – 65) and an

enable valve (13) is placed between the buffer tank and the pump wherein opening the enable valve allows the polymer solution to flow to the pump.

4. Tsujii et al. lack the buffer tank to maintain a relatively constant level of polymer solution, mounting the substrate on a rotable chuck, rotating the substrate to spread the polymer solution, flowing an inert gas into the polymer solution source to create the pressure to transfer the polymer solution into the buffer tank, and coupling a fluid sensor to the polymer solution source, the fluid sensor configured to detect the polymer solution level in the polymer solution source, and wherein the sensor is capable of shutting off the enable valve when the polymer solution level in the polymer solution source is detected to be substantially low or empty.

5. However, Semba teaches a buffer tank maintaining a relatively constant level of polymer solution employing a limit level fluid sensors and an empty tank fluid sensor (col. 5 lines 62 – 67), mounting the substrate on a rotable chuck (col. 5 lines 57 – 61), rotating the substrate to spread a polymer solution (col. 6 lines 59 – 63), and flowing an inert gas into the polymer solution source to create a pressure to transfer the polymer solution into the buffer tank (col. 5 lines 35 – 45, & fig. 2).

6. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Semba into the Tsujii et al. reference to control the thickness of the coating.

7. Claims 11 – 12, 16 – 18, and 25 are objected to as being dependent upon a rejected claim, but would be allowable if rewritten in independent form.

8. Prior art considered, but not used in the rejection include Kokubo et al. (US Patent 6287636), Kitamura et al. (US Patent 6139639) and Iwashita et al. (US Patent 5989622).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igwe U. Anya whose telephone number is (571) 272-1887. The examiner can normally be reached on M - F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Igwe U. Anya
Examiner
Art Unit 2825

IA

July 31, 2004

MATTHEW SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800